

IN THE CLAIMS:

1-15. (Canceled)

16. (Withdrawn) A method of identifying a multiple sclerosis patient that will exhibit low or undetectable anti-MBP levels in response to treatment with a peptide of from about 8 to about 25 amino acids and having a sequence contained within amino acid residues 61-106 of SEQ ID NO:1, including substitutions, additions or deletions thereof, provided the peptide is capable of neutralizing or modulating the production of anti-myelin basic protein, comprising identifying a multiple sclerosis patient having an HLA-DR2 haplotype, wherein the presence of the HLA-DR2 haplotype in the patient identifies a patients that will exhibit low or undetectable anti-MBP levels in response to treatment with the peptide.

17. (Withdrawn) A method of screening for multiple sclerosis patients that exhibit low or undetectable anti-MBP levels in response to treatment with a peptide of from about 8 to about 25 amino acids and having a sequence contained within amino acid residues 61-106 of SEQ ID NO:1, including substitutions, additions or deletions thereof, provided the peptide is capable of neutralizing or modulating the production of anti-myelin basic protein, comprising screening multiple sclerosis patients for the presence of an HLA-DR2 haplotype, wherein the presence of the HLA-DR2 haplotype in the patient indicates patients that will exhibit low or undetectable anti-MBP levels in response to treatment with the peptide.

18. (Currently Amended) A method of predicting therapeutic efficacy of treatment of a multiple sclerosis patient with a peptide of from ~~about 8 to about 25~~ 7 to 46 amino acids and having a sequence contained within amino acid residues 61-106 of SEQ ID NO:1, including substitutions, additions or deletions thereof, provided the peptide is capable of neutralizing or modulating the production of anti-myelin basic protein, comprising screening a multiple sclerosis patient for the presence of an human leukocyte antigen

(HLA)-DR2 HLA-DR2 haplotype, wherein the presence of the human leukocyte antigen (HLA)-DR2 HLA-DR2 haplotype in the patient is predictive of therapeutic efficacy of treatment with the peptide.

19. (Currently Amended) The method of ~~any of claims 1 to 3~~ claim 18, wherein the human leukocyte antigen (HLA)-DR2 HLA-DR2 haplotype comprises DRB1\*1501 or DRB1\*15021.
20. (Currently Amended) The method of ~~any of claims 1 to 3~~ claim 18, wherein the patient has chronic progressive multiple sclerosis (MS) MS.
21. (New) A method of predicting therapeutic efficacy of treatment of a multiple sclerosis patient with a peptide of from 7 to 46 amino acids and having a sequence contained within amino acid residues 61-106 of SEQ ID NO:1, comprising screening a multiple sclerosis patient for the presence of an human leukocyte antigen (HLA)-DR2 haplotype, wherein the presence of the human leukocyte antigen (HLA)-DR2 haplotype in the patient is predictive of therapeutic efficacy of treatment with the peptide.
22. (New) A method of predicting therapeutic efficacy of treatment of a multiple sclerosis patient with a peptide of from 8 to 25 amino acids and having a sequence contained within amino acid residues 61-106 of SEQ ID NO:1, including substitutions, additions or deletions thereof, provided the peptide is capable of neutralizing or modulating the production of anti-myelin basic protein, comprising screening a multiple sclerosis patient for the presence of an human leukocyte antigen (HLA)-DR2 haplotype, wherein the presence of the human leukocyte antigen (HLA)-DR2 haplotype in the patient is predictive of therapeutic efficacy of treatment with the peptide.
23. (New) A method of predicting therapeutic efficacy of treatment of a multiple sclerosis patient with a peptide of from 8 to 25 amino acids and having a sequence contained

within amino acid residues 61-106 of SEQ ID NO:1, comprising screening a multiple sclerosis patient for the presence of an human leukocyte antigen (HLA)-DR2 haplotype, wherein the presence of the human leukocyte antigen (HLA)-DR2 haplotype in the patient is predictive of therapeutic efficacy of treatment with the peptide.

24. (New) A method of predicting therapeutic efficacy of treatment of a multiple sclerosis patient with a peptide having a sequence with the formula:

$R_1$ -Val-His-Phe-Phe-Lys-Asn-Ile- $R_2$  (SEQ ID NO:2) and salts thereof, wherein  $R_1$  and  $R_2$  are independently selected from the group consisting of hydrogen, hydroxy, the residue of an amino acid and the residue of a polypeptide; provided that  $R_1$  and  $R_2$  are not both hydrogen or hydroxyl at the same time, comprising screening a multiple sclerosis patient for the presence of an human leukocyte antigen (HLA)-DR2 haplotype, wherein the presence of the human leukocyte antigen (HLA)-DR2 haplotype in the patient is predictive of therapeutic efficacy of treatment with the peptide.

25. (New) The method of claim 24, wherein  $R_1$  or  $R_2$  is a naturally occurring amino acid.